

BEST AVAILABLE COPY

Coprecipitants

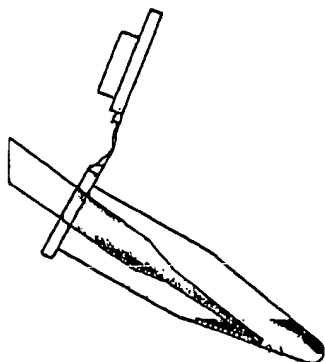
FOR THE QUANTITATIVE
PRECIPITATION OF NUCLEIC
ACIDS

GlycoBlue™
Glycogen
Yeast RNA
Linear Acrylamide



What is a Coprecipitant?

Coprecipitants are inert substances used to aid recovery of nucleic acids during alcohol precipitations. While they can be used for precipitating large amounts of nucleic acids, they are essential for quantitative recovery of small amounts of nucleic acids in dilute solutions. Often, the use of such molecules is desirable for no other reason but visualization of the pelleted precipitate after centrifugation.



GlycoBlue™ increases the visibility of Sample Pellets

- Blue color of GlycoBlue™ increases visibility of sample pellet
- Increases pellet mass
- Quantitative recovery of low concentrations (ng/ml) of nucleic acid
- Prevents pellet loss in nuclease protection assays
- Linear acrylamide, is not derived from or treated with any biological materials

GLYCOBLUE™

GlycoBlue™ consists of a blue dye covalently linked to glycogen, a branched chain carbohydrate. GlycoBlue can be added to nucleic acid solutions at a final concentration of 50-150 µg/ml. When a typical acetate/alcohol precipitation is done, the GlycoBlue will precipitate with the nucleic acids, facilitating good RNA or DNA recovery while increasing the size and visibility of the pellet. GlycoBlue can be used as a coprecipitant in nuclease protection assays at 1/100 dilution of stock solution. Because glycogen does not contain appreciable amounts of nucleic acids, it is often preferable to yeast RNA as a coprecipitant, especially in applications where nucleic acid mass is being assessed or where added nucleic acid could interfere or compete with subsequent enzymatic reactions.

Ambion's glycogen is isolated from mussel, a biological source. Glycogen is treated with Proteinase K and SDS to remove any contaminating nucleases, then phenol/chloroform extracted, ethanol precipitated, resuspended in nuclease-free water and quantified by an enzymatic assay. The glycogen is guaranteed RNase, DNase and proteinase-free. GlycoBlue is compatible with most nuclease protection assay procedures and is included in Ambion's RPA III™ and Multi-NPA™ Kits.

GLYCOGEN

The same product as GlycoBlue (see above), without the dye. When used at a final concentration of 50-150 µg/ml, glycogen will coprecipitate with nucleic acids in the presence of 0.5 M ammonium acetate and isopropanol or ethanol. It is supplied at a concentration of 5 mg/ml in diethyl pyrocarbonate-treated distilled water. Glycogen will not interfere with A_{260/280} readings.

YEAST RNA

Purified *Saccharomyces* yeast RNA is also suitable as a coprecipitant in nucleic acid precipitations. It cannot be used in reactions inhibited by exogenous RNA, and it is the most inexpensive source of a high quality coprecipitant. This total RNA preparation consists of 300-500 base fragments and is supplied at a concentration of 5 mg/ml in diethyl pyrocarbonate-treated distilled water. It is typically used at a working concentration of 10-20 µg/ml.

LINEAR ACRYLAMIDE

Linear acrylamide offers the advantage that it is chemically synthesized and is not treated with reagents (e.g. proteases) derived from biological sources. Therefore, it is not contaminated with biological material. It has been shown to precipitate picogram amounts of DNA fragments larger than 20 base pairs while failing to precipitate shorter fragments and free nucleotides. Linear acrylamide is useful for separating reaction products from unincorporated nucleotides and from most oligonucleotide primers. It may be the most appropriate coprecipitant to use when precipitating DNA and RNA for PCR and RT-PCR reactions since small amounts of contaminating nucleic acids present in other carriers could be amplified. Ambion offers linear acrylamide as a 5 mg/ml solution. It should be used at a final working concentration of 10-20 µg/ml. Linear acrylamide will not interfere with A_{260/280} readings.

ORDERING INFORMATION

	Cat #	Size	Price
GlycoBlue™ [5mg/ml]	9515	0.3 ml	1.5mg \$ 40.00
	9516	5 x 0.3 ml	\$ 100.00
Glycogen	9510	5 x 1 ml	\$ 85.00
Yeast RNA	7120G	0.5 ml	\$ 37.00
Linear Acrylamide	9520	5 x 1 ml	\$ 80.00